

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently amended): A peptide that ameliorates one or more symptoms of an inflammatory condition, wherein said peptide having is a peptide of the formula:

$X^1-X^2-X^3-n-X^4$

$X^1-X^2-X^3-X^4$

wherein:

X^1 and X^4 are independently selected from the group consisting of alanine (Ala), valine (Val), leucine (Leu), isoleucine (Ile), proline (Pro), phenylalanine (Phe), tryptophan (Trp), methionine (Met), serine (Ser) bearing a hydrophobic protecting group, beta-naphthyl alanine, alpha-naphthyl alanine, norleucine, cyclohexylalanine, threonine (Thr) bearing a hydrophobic protecting group, tyrosine (Tyr) bearing a hydrophobic protecting group, lysine (Lys) bearing a hydrophobic protecting group, arginine (Arg) bearing a hydrophobic protecting group, ornithine (Orn) bearing a hydrophobic protecting group, aspartic acid (Asp) bearing a hydrophobic protecting group, cysteine (Cys) bearing a hydrophobic protecting group, and glutamic acid (Glu) bearing a hydrophobic protecting group; and

X^2 and X^3 are independently selected from the group consisting of Asp, Arg, and Glu;
 n is 0 or 1;

X^1 is a hydrophobic amino acid and/or bears a hydrophobic protecting group;

X^4 is a hydrophobic amino acid and/or bears a hydrophobic protecting group; and

when n is 0:

X^2 is an amino acid selected from the group consisting of an acidic amino acid, a basic amino acid, and a histidine;

when n is 1:

X^2 and X^3 are independently an acidic amino acid, a basic amino acid, an aliphatic amino acid, or an aromatic amino acid such that

when X^2 is an acidic amino acid; X^3 is a basic amino acid, an aliphatic amino acid, or an aromatic amino acid;

when X^2 is a basic amino acid; X^3 is an acidic amino acid, an aliphatic amino acid, or an aromatic amino acid; and

~~when X^2 is an aliphatic or aromatic amino acid, X^3 is an acidic amino acid, or a basic amino acid;~~

said peptide converts pro-inflammatory HDL to anti-inflammatory HDL or makes anti-inflammatory HDL more anti-inflammatory; and

said peptide does not ~~have~~ consist of the amino acid sequence Lys-Arg-Asp-Ser (SEQ ID NO:238) in which Lys-Arg-Asp and Ser are all L amino acids.

Claims 2-26 (Canceled).

Claim 27 (Currently amended): The peptide of claim 1, wherein:

$X^1-X^2-X^3-X^4$ consists of the amino acid sequence Phe-Arg-Glu-Leu (SEQ ID NO:250).

~~n is 1; and~~

~~X^2 and X^3 are independently an acidic amino acid or a basic amino acid such that when X^2 is an acidic amino acid, X^3 is a basic amino acid and when X^2 is a basic amino acid, X^3 is an acidic amino acid.~~

Claim 28 (Currently amended): The peptide of claim 1, wherein said peptide comprises at least one "D" amino acid. ~~27, wherein wherein X^1 and X^4 are independently selected from the group consisting of alanine (Ala), valine (Val), leucine (Leu), isoleucine (Ile), proline (Pro), phenylalanine (Phe), tryptophan (Trp), methionine (Met), serine (Ser) bearing a hydrophobic protecting group, beta-naphthyl alanine, alpha-naphthyl alanine, norleucine, cyclohexylalanine, threonine (Thr) bearing a hydrophobic protecting group, tyrosine (Tyr) bearing a hydrophobic protecting group, lysine (Lys) bearing a hydrophobic protecting group, arginine (Arg) bearing a hydrophobic protecting group, ornithine (Orn) bearing a hydrophobic protecting group, aspartic acid (Asp) bearing a hydrophobic protecting group, cysteine (Cys) bearing a hydrophobic protecting group, and glutamic acid (Glu) bearing a hydrophobic protecting group.~~

Claim 29 (Currently amended): The peptide of claim 28, wherein said peptide consists of all "D" amino acids. ~~X^2 and X^3 are independently selected from the group consisting of Asp, Glu, Lys, Arg, and His.~~

Claim 30 (Currently amended): The peptide of claim 27, wherein said peptide comprises at least one "D" amino acid. 28, wherein said peptide consists of at least one "D" amino acid.

~~X² and X³ are independently selected from the group consisting of Asp, Arg, and Glu.~~

Claim 31 (Currently amended): The peptide of any one of claims 29 1, 27, 28, 29, or 41, wherein X¹ bears a hydrophobic protecting group.

Claim 32 (Currently amended): The peptide of claim 31, wherein said hydrophobic protecting group is selected from the group consisting of t-butoxycarbonyl (Boc), Fmoc, nicotinyl, O*t*Bu, a benzoyl group, an acetyl (Ac), a carbobenzoxy, methyl, ethyl, a propyl, a butyl, a pentyl, a hexyl ester, an N-methyl anthranilyl, ~~and a 3 to 20 carbon alkyl, amide, a 3 to 20 carbon alkyl group, 9-fluoreneacetyl group, 1-fluorenecarboxylic group, 9-fluorenecarboxylic group, 9-fluorenone-1-carboxylic group, benzoyloxycarbonyl (is also called carbobenzoxy mentioned above), Xanthy (Xan), Trityl (Trt), 4-methyltrityl (Mtt), 4-methoxytrityl (Mmt), 4-methoxy-2,3,6-trimethyl-benzenesulphonyl (Mtr), Mesylene-2-sulphonyl (Mts), 4,4-dimethoxybenzhydryl (Mbh), Tosyl (Tos), 2,2,5,7,8-pentamethyl chroman-6-sulphonyl (Pmc), 4-methylbenzyl (MeBzl), 4-methoxybenzyl (MeOBzl), Benzyloxy (BzlO), Benzyl (Bzl), Benzoyl (Bz), 3-nitro-2-pyridinesulphenyl (Npys), 1-(4,4-dimethyl-2,6-dioxocyclohexylidene)ethyl (Dde), 2,6-dichlorobenzyl (2,6-DiCl-Bzl), 2-chlorobenzylloxycarbonyl (2-Cl-Z), 2-bromobenzylloxycarbonyl (2-Br-Z), benzyloxymethyl (Bom), cyclohexyloxy (cHxO), t-butoxymethyl (Bum), t-butoxy (tBuO), t-Butyl (tBu), trifluoroacetyl (TFA), 4[N-{1-(4,4-dimethyl-2,6-dioxocyclohexylidene)-3-methyldibutyl}-amino]benzyl ester (ODmab), α -allyl ester (OAll), 2-phenylisopropyl ester (2-PhiPr), and 1-[4,4-dimethyl-2,6-dioxycyclohex-1-yl-idene]ethyl (Dde).~~

Claim 33 (Currently amended): The peptide of claim 31, wherein said ~~said~~ hydrophobic protecting group is selected from the group consisting of Boc, Fmoc, nicotinyl, and O*t*Bu.

Claim 34 (Original): The peptide of claim 31, wherein X⁴ bears a hydrophobic protecting group.

Claim 35 (Currently amended): The peptide of claim 34, wherein said hydrophobic protecting group is selected from the group consisting of t-butoxycarbonyl (Boc), Fmoc, nicotinyl, O*t*Bu, a benzoyl group, an acetyl (Ac), a carbobenzoxy, methyl, ethyl, a propyl, a butyl, a pentyl, a hexyl ester,

an N-methyl anthranilyl, and a 3 to 20 carbon alkyl, amide, ~~a 3 to 20 carbon alkyl group~~, 9-fluoreneacetyl group, 1-fluorenecarboxylic group, 9-fluorenecarboxylic group, 9-fluorenone-1-carboxylic group, ~~benzyl oxy carbonyl (is also called carbobenzoxy mentioned above)~~, Xanthy (Xan), Trityl (Trt), 4-methyltrityl (Mtt), 4-methoxytrityl (Mmt), 4-methoxy-2,3,6-trimethyl-benzenesulphonyl (Mtr), Mesylene-2-sulphonyl (Mts), 4,4-dimethoxybenzhydryl (Mbh), Tosyl (Tos), 2,2,5,7,8-pentamethyl chroman-6-sulphonyl (Pmc), 4-methylbenzyl (MeBzl), 4-methoxybenzyl (MeOBzl), Benzyloxy (BzlO), Benzyl (Bzl), ~~Benzoyl (Bz)~~, 3-nitro-2-pyridinesulphenyl (Npys), 1-(4,4-dimethyl-2,6-dioxocyclohexylidene)ethyl (Dde), 2,6-dichlorobenzyl (2,6-DiCl-Bzl), 2-chlorobenzyloxycarbonyl (2-Cl-Z), 2-bromobenzyloxycarbonyl (2-Br-Z), benzyloxymethyl (Bom), cyclohexyloxy (cHxO), t-butoxymethyl (Bum), ~~t-butoxy (tBuO)~~, t-Butyl (tBu), trifluoroacetyl (TFA), 4[N-{1-(4,4-dimethyl-2,6-dioxocyclohexylidene)-3-methyldibutyl}]-amino]-benzyl ester (ODmab), α -allyl ester (OAll), 2-phenylisopropyl ester (2-PhiPr), and 1-[4,4-dimethyl-2,6-dioxocyclohex-1-yl-idene]ethyl (Dde).

Claim 36 (Original): The peptide of claim 31, wherein the N-terminus of said peptide is blocked with a protecting group selected from the group consisting of Boc-, Fmoc-, and Nicotinyl-.

Claim 37 (Original): The peptide of claim 31, wherein the C-terminus of said peptide is blocked with a protecting group selected from the group consisting of tBu, and O_tBu.

Claims 38-40 (Canceled).

Claim 41 (Currently amended): The peptide of claim 2730, wherein said peptide consists of all "D" amino acids.~~comprises all D amino acids~~.

Claim 42 (Currently amended): The peptide of claim 27_1, wherein said peptide comprises alternating D- and L- amino acids.

Claim 43 (Currently amended): The peptide of claim 27_1, wherein said peptide comprises all L-amino acids.

Claim 44 (Currently amended): The peptide of claims 1 or 27, wherein said peptide is mixed with a pharmacologically acceptable excipient.

Claim 45 (Currently amended): The peptide of claim 2744, wherein said peptide is mixed with a pharmacologically acceptable excipient suitable for oral administration to a mammal.

Claim 46 (Currently amended): The peptide of claim 2744, wherein said polypeptide is provided as a unit formulation in a pharmaceutically acceptable excipient.

Claim 47 (Currently amended): The peptide of claims 1 or 27, wherein said polypeptide is provided as a time release formulation.

Claim 48 (Currently amended): The peptide of claims 1 or 27, wherein said peptide protects a phospholipid against oxidation by an oxidizing agent

Claim 49 (Original): The peptide of claim 27, wherein said peptide is coupled to a biotin.

Claims 50-122 (Canceled)

Claim 123 (Currently amended): A pharmaceutical formulation comprising:

one or more peptides according to claims 1, 27, 28, 29, and 411, 2, 27, 50, 72, 94, 112, 113, 115, 116, and 119; and

a pharmaceutically acceptable excipient;

wherein the peptide is present in a dose effective to ameliorate one or more symptoms of an inflammatory condition.

Claim 124 (Currently amended): The pharmaceutical formulation of claim 123, wherein said peptide consists of all "D" amino acids, the peptide is present in an effective dose.

Claim 125 (Original): The pharmaceutical formulation of claim 123, wherein the peptide is in a time release formulation.

Claim 126 (Original): The pharmaceutical formulation of claim 123, wherein the formulation is formulated as a unit dosage formulation.

Claim 127 (Original): The pharmaceutical formulation of claim 123, wherein the formulation is formulated for oral administration.

Claim 128 (Original): The pharmaceutical formulation of claim 123, wherein the formulation is formulated for administration by a route selected from the group consisting of oral administration, nasal administration, rectal administration, intraperitoneal injection, intravascular injection, subcutaneous injection, transcutaneous administration, inhalation administration, and intramuscular injection.

Claim 129 (Currently amended): A kit comprising:

a container containing one or more of the peptides according to claims 1, 27, 28, 29, and 41 ~~1, 2, 27, 50, 72, 94, 112, 113, 115, 116, and 119~~; and

instructional materials teaching the use of the peptide(s) in the treatment of a pathology characterized by inflammation.

Claim 130 (Currently amended): The kit of claim 129, wherein said pathology is a pathology selected from the group consisting of atherosclerosis, rheumatoid arthritis, lupus erythematosus ~~erythematosus~~, polyarteritis nodosa, osteoporosis, Alzheimer's~~Alzheimer's~~ disease, and a viral illnesses.

Claim 131 (Currently amended): A method of mitigating one or more symptoms of atherosclerosis in a mammal, said method comprising administering to said mammal an effective amount of one or more of the peptides of claims 1, 27, 28, 29, and 41 ~~1, 2, 27, 50, 72, 94, 112, 113, 115, 116, and 119~~.

Claim 132 (Original): The method of claim 131, wherein said peptide is in a pharmaceutically acceptable excipient.

Claim 133 (Original): The method of claim 131, wherein said peptide is administered in conjunction with a lipid.

Claim 134 (Original): The method of claim 131, wherein said peptide is in a pharmaceutically acceptable excipient suitable for oral administration.

Claim 135 (Original): The method of claim 131, wherein said peptide is administered as a unit dosage formulation.

Claim 136 (Original): The method of claim 131, wherein said administering comprises administering said peptide by a route selected from the group consisting of oral administration, nasal administration, rectal administration, intraperitoneal injection, intravascular injection, subcutaneous injection, transcutaneous administration, and intramuscular injection.

Claim 137 (Original): The method of claim 131, wherein said mammal is a mammal diagnosed as having one or more symptoms of atherosclerosis.

Claim 138 (Original): The method of claim 131, wherein said mammal is a mammal diagnosed as at risk for stroke or atherosclerosis.

Claim 139 (Original): The method of claim 131, wherein said mammal is a human.

Claim 140 (Original): The method of claim 131, wherein said mammal is non-human mammal.

Claim 141 (Currently amended): A method of mitigating one or more symptoms of an inflammatory pathology, -said method comprising administering to said mammal an effective amount of the peptide of claims 1, 27, 28, 29, and 411, 2, 27, 50, 72, 94, 112, 113, 115, 116, and 119.

Claim 142 (Currently amended): The method of claim 141, wherein said inflammatory pathology is a pathology selected from the group consisting of atherosclerosis, rheumatoid arthritis, lupus erythematosus erythematosus, polyarteritis nodosa, osteoporosis, Alzheimer's Alzheimer's disease, multiple sclerosis, and a viral illnesses.

Claim 143 (Original): The method of claim 141, wherein said peptide is in a pharmaceutically acceptable excipient.

Claim 144 (Original): The method of claim 141, wherein said peptide is administered in conjunction with a lipid.

Claim 145 (Original): The method of claim 141, wherein said peptide is in a pharmaceutically acceptable excipient suitable for oral administration.

Claim 146 (Original): The method of claim 141, wherein said peptide is administered as a unit dosage formulation.

Claim 147 (Original): The method of claim 141, wherein said administering comprises administering said peptide by a route selected from the group consisting of oral administration, nasal administration, rectal administration, intraperitoneal injection, intravascular injection, subcutaneous injection, transcutaneous administration, and intramuscular injection.

Claim 148 (Original): The method of claim 141, wherein said mammal is a mammal diagnosed as at risk for stroke.

Claim 149 (Original): The method of claim 141, wherein said mammal is a human.

Claim 150 (Original): The method of claim 141, wherein said mammal is non-human mammal.

Claim 151 (Currently amended): A method of enhancing the activity of a statin in a mammal, said method comprising coadministering with said statin an effective amount of one or more of the peptides of claims 1, 27, 28, 29, and 411, 2, 27, 50, 72, 94, 112, 113, 115, 116, and 119.

Claim 152 (Currently amended): The method of claim 151, wherein said statin is selected from the group consisting of cerivastatin, atorvastatin, simvastatin, pravastatin, fluvastatin, lovastatin, rosuvastatin, and pitavastatin.

Claim 153 (Original): The method of claim 151, wherein said peptide is administered simultaneously with said statin.

Claim 154 (Original): The method of claim 151, wherein said peptide is administered before said statin.

Claim 155 (Original): The method of claim 151, wherein said peptide is administered after said statin.

Claim 156 (Original): The method of claim 151, wherein said peptide and/or said statin are administered as a unit dosage formulation.

Claim 157 (Original): The method of claim 151, wherein said administering comprises administering said peptide and/or said statin by a route selected from the group consisting of oral administration, nasal administration, rectal administration, intraperitoneal injection, intravascular injection, subcutaneous injection, transcutaneous administration, and intramuscular injection.

Claim 158 (Original): The method of claim 151, wherein said mammal is a mammal diagnosed as having one or more symptoms of atherosclerosis.

Claim 159 (Original): The method of claim 151, wherein said mammal is a mammal diagnosed as at risk for stroke or atherosclerosis.

Claim 160 (Original): The method of claim 151, wherein said mammal is a human.

Claim 161 (Original): The method of claim 151, wherein said mammal is non-human mammal.

Claim 162 (Currently amended): A method of mitigating one or more symptoms associated with atherosclerosis in a mammal, said method comprising:

administering to said mammal an effective amount of a statin; and
an effective amount of a-one or more peptides of claims 1, 27, 28, 29, and 41,
2, 27, 50, 72, 94, 112, 113, 115, 116, and 119;

wherein the effective amount of the statin is lower than the effective amount of a statin administered without said peptide.

Claim 163 (Original): The method of claim 162, wherein the effective amount of the peptide is lower than the effective amount of the peptide administered without said statin.

Claim 164 (Currently amended): The method of claim 162, wherein said statin is selected from the group consisting of cerivastatin, atorvastatin, simvastatin, pravastatin, fluvastatin, lovastatin, rosuvastatin, and pitavastatin.

Claim 165 (Original): The method of claim 162, wherein said peptide is administered simultaneously with said statin.

Claim 166 (Original): The method of claim 162, wherein said peptide is administered before said statin.

Claim 167 (Original): The method of claim 162, wherein said peptide is administered after said statin.

Claim 168 (Original): The method of claim 162, wherein said peptide and/or said statin are administered as a unit dosage formulation.

Claim 169 (Original): The method of claim 162, wherein said administering comprises orally administering said composition.

Claim 170 (Original): The method of claim 162, wherein said administering is by a route selected from the group consisting of oral administration, nasal administration, rectal administration, intraperitoneal injection, intravascular injection, subcutaneous injection, transcutaneous administration, inhalation administration, and intramuscular injection.

Claim 171 (Original): The method of claim 162, wherein said mammal is a mammal diagnosed as having one or more symptoms of atherosclerosis.

Claim 172 (Original): The method of claim 162, wherein said mammal is a mammal diagnosed as at risk for stroke or atherosclerosis.

Claim 173 (Original): The method of claim 162, wherein said mammal is a human.

Claim 174 (Original): The method of claim 162, wherein said mammal is non-human mammal.

Claim 175 (Currently amended): A pharmaceutical formulation, the formulation comprising:
a statin and/or Ezetimibe; and
a peptide or a concatamer of a peptide according to any of claims 1, 27, 28, 29,
and 411, 2, 27, 50, 72, 94, 112, 113, 115, 116, and 119.

Claim 176 (Original): The pharmaceutical formulation of claim 175, wherein the peptide and/or the statin are present in an effective dose.

Claim 177 (Original): The pharmaceutical formulation of claim 176, wherein the effective amount of the statin is lower than the effective amount of the statin administered without the peptide.

Claim 178 (Original): The pharmaceutical formulation of claim 176, wherein the effective amount of the peptide is lower than the effective amount of the peptide administered without the statin.

Claim 179 (Original): The pharmaceutical formulation of claim 176, wherein the effective amount of the Ezetimibe is lower than the effective amount of the Ezetimibe administered without the peptide.

Claim 180 (Original): The pharmaceutical formulation of claim 176, wherein the effective amount of the peptide is lower than the effective amount of the peptide administered without the Ezetimibe.

Claim 181 (Currently amended): The pharmaceutical formulation of claim 175, wherein the statin is selected from the group consisting of cerivastatin, atorvastatin, simvastatin, pravastatin, fluvastatin, lovastatin, rosuvastatin, and pitavastatin.

Claim 182 (Original): The pharmaceutical formulation of claim 175, wherein the Ezetimibe, the statin, and/or the peptide are in a time release formulation.

Claim 183 (Original): The pharmaceutical formulation of claim 175, wherein the formulation is formulated as a unit dosage formulation.

Claim 184 (Original): The pharmaceutical formulation of claim 175, wherein the formulation is formulated for oral administration.

Claim 185 (Original): The pharmaceutical formulation of claim 175, wherein the formulation is formulated for administration by a route selected from the group consisting of oral administration, nasal administration, rectal administration, intraperitoneal injection, intravascular injection, subcutaneous injection, transcutaneous administration, inhalation administration, and intramuscular injection.

Claim 186 (Original): The pharmaceutical formulation of claim 175, wherein the formulation further comprises one or more phospholipids.

Claims 187-191 (Canceled).